

**LISTING OF THE CLAIMS**

This listing of claims, amended as indicated below, replaces all prior versions, and listings, of claims in the application

1. (Currently Amended) A system for cerebral temperature control of a living being, comprising:

- a first double lumen balloon catheter ~~means~~ configured to be introduced through a nostril of a living being and ~~to be placed with its tip at the level of the back of the tongue~~; said double lumen balloon catheter means comprises comprising:

a first lumen and a second lumen, said first and second lumens ~~are being~~ in fluid communication ~~by means of a set of end~~ through respective openings, said second lumen being configured as an expandable first balloon;

- a second double lumen balloon catheter configured to be introduced through another nostril of said living being; said second double lumen balloon catheter comprising a third lumen and a fourth lumen, said third and fourth lumens being in fluid communication by means of respective openings, said fourth lumen being configured as an expandable second balloon;

- a temperature regulator connected to a reservoir comprising a fluid, said temperature regulator being configured to regulate the temperature of said fluid;

- ~~means for circulating~~ a circulation mechanism operative to pass said temperature regulated fluid to each of said first and second catheters from said reservoir into said first lumen, from said first lumen into said second lumen, and out from said second lumen ~~back to said reservoir, and from said reservoir into said third lumen, from said third lumen into said fourth lumen, and out from said fourth lumen.~~

whereby said ~~balloon~~ first and second balloons, when in use, ~~is~~ are expandable to cover the inner surface surfaces of the nose ~~and epipharynx~~.

2. (Original) The system of claim 1, wherein said temperature regulated fluid is circulated in a closed fluid system.

3. (Canceled).

4. (Currently Amended) The system of claim 3, wherein each of said double lumen balloon catheters ~~catheter means~~ comprises:

- an inlet in fluid communication with said reservoir and with said first lumen, said inlet being configured to receive said fluid from said reservoir;
- said first lumen having a set of distal end openings in a front end portion of said first catheter means, said end openings being arranged in fluid communication with said second lumen; and
- an outlet in fluid communication with said second lumen and with said reservoir.

5. (Currently Amended) The system of claim 4, wherein said inlet and outlet are arranged at an end portion of the said first catheter ~~means~~.

6. (Currently Amended) The system of claim 1, wherein said circulation of said fluid is accomplished by ~~means of~~ the hydrostatic pressure of said fluid in said reservoir.

7. (Currently Amended) The system of claim 1, wherein said ~~means for circulating said temperature regulated fluid~~ circulation mechanism further comprises a ~~pumping means arranged a pump connected by tubing~~ between said reservoir and said ~~catheter means by means of tubing~~ catheters.

8. (Currently Amended) The system of claim 1, wherein said ~~means for circulating the fluid~~ circulation mechanism is configured to provided a flow rate of 200 - 1000 ml/min.

9. (Currently Amended) The system of claim 1, further comprising a pressure regulating nozzle ~~arranged at~~ located in the tubings tubing at the reservoir, said pressure regulating nozzle being configured to provide a resistance in the ~~tubings~~ tubing.

10. (Currently Amended) The system of claim 1, further comprising a temperature sensor configured to be arranged ~~positioned~~ in an auditory canal of the patient a living being, to register provide an estimate of the temperature of the brain and to ~~automatically~~ control the temperature regulator to regulate the temperature of the fluid in the reservoir ~~in order to maintain the temperature of the brain at a desired level.~~

11. (Currently Amended) The system of claim 10, wherein said temperature sensor is an IR thermistor positionable in the auditory canal of the living being.

12. (Original) The system of claim 10, wherein said desired brain temperature level is approximately 31- 32 degrees Celsius.

13. (Currently Amended) The system of claim 1, wherein said ~~catheter means is~~ catheters are manufactured of a material ~~such as~~ selected from the group comprising plastic, synthetic latex, silicone ~~[[or]]~~ and Gore-Tex®.

14-18 (Canceled).

19. (Currently Amended) A method for cerebral temperature control, comprising the steps of:

- introducing a double lumen balloon catheter ~~means~~ through a nostril of a living being;
- placing said catheter ~~means with its tip at~~ adjacent the level of the back of the tongue;
- regulating the temperature ~~regulating of~~ a fluid in a reservoir;
- circulating said temperature regulated fluid from said reservoir into a first lumen of said catheter ~~means~~, from said first lumen into a second lumen of said catheter ~~means~~, and from said second lumen back to said reservoir,

whereby the balloon ~~[[are]]~~ is expanded to ~~completely~~ cover the inner surface of the nose and epipharynx and whereby said temperature regulated fluid circulates in a closed fluid system.

20. (Currently Amended) The method of claim 19, wherein said step of circulating said temperature regulated fluid comprises the step of pumping said fluid from said reservoir[,] to said catheter ~~means~~ and back to said reservoir via said first and second lumens by ~~means of a pumping means~~.

21. (Currently Amended) The method claim 19, wherein said temperature regulated fluid circulates at a flow rate in the ~~interval~~ range of approximately 200 - 1000 ml/min.

22. (Currently Amended) The method of claim 19, further comprising the steps of: placing a temperature sensor in an auditory canal of the living being; ~~of~~ registering estimating the brain temperature by means of said temperature sensor; and ~~and~~ [[of]] regulating the temperature regulating the fluid in dependence of said ~~registered~~ estimated brain temperature ~~in order to maintain the brain temperature at a desired level~~.

23. (Original) The method of claim 22, wherein the step of temperature regulating said fluid comprises the step of cooling said fluid in order to obtain a brain temperature of approximately 31 - 32 degrees Celsius.

24. (Canceled).

25. (New) The system of claim 1, wherein said double lumen balloon catheters are approximately 20 to 25 cm. in length.

26. (New) The system of claim 1, wherein said double lumen balloon catheters have a diameter at a front part of approximately 2 to 4 cm.

27. (New) The system of claim 1, wherein said double lumen balloon catheter have a diameter at a base part of approximately 1 to 3 cm.

28. (New) The method of claim 19, wherein said double lumen balloon catheter has a length of approximately 20 to 25 cm.

29. (New) The method of claim 19, wherein said double lumen balloon catheter has a diameter at a front part of approximately 2 to 4 cm.

30. (New) The method of claim 19, wherein said double lumen balloon catheter has a diameter at a base part of approximately 1 to 3 cm.

31. (New) The system of claim 9, wherein the pressure regulating nozzle is arranged for providing a resistance in the tubing for expanding the double lumen catheter.

32. (New) The method of claim 19, further comprising:  
circulating the temperature regulated fluid through a system of tubing; and  
regulating fluid pressure in the tubing by a pressure regulating nozzle located in the tubing at the reservoir, for providing a resistance in the tubing.

33. (New) The method of claim 19, further comprising:  
regulating a pressure of the circulating fluid by a pressure regulating nozzle for expanding the double lumen catheter.

34. (New) The system of claim 1, wherein said first double lumen balloon catheter is configured to be introduced through the nostril of a living being to a position which is not further than adjacent the level of the back of the tongue.

35. (New) The system of claim 1, wherein said second double lumen balloon catheter is configured to be introduced through the nostril of a living being to a position which is not further than adjacent the level of the back of the tongue.

36. (New) The system of claim 1, wherein said circulation mechanism comprises tubing connecting said catheters to said reservoir.

37. (New) A kit of disposables for use in the system according to any of the claims 1, 2, 4-13, 25-27, 31 and 36, comprising:  
two replacement double lumen balloon catheters; and  
tubing configured for connecting the catheters to said reservoir,  
said catheters and said tubing being disposable after use.

38. (New) A system for cerebral temperature control of a living being, comprising:  
- a first double balloon catheter configured to be introduced through a first nostril of a living being,  
said double balloon catheter comprising:  
- a first balloon configured, when in use, to occlude the entrance to the mouth; and  
- a second balloon configured, when in use, to occlude the first nostril; and  
- a second balloon catheter configured to be placed into a second nostril, the second balloon catheter comprising:  
a third balloon configured, when in use, to occlude the second nostril,  
said first and second balloon catheters being so configured and arranged that a temperature regulated fluid is injectable into the first catheter, and said fluid passes through openings of the balloons of the first catheter and flushes the cavum nasae and passes out via the second nostril by means of openings of the second catheter means.